# HUNTING BIRDS ON MOLOKAI

## Interesting Experiences of a Scientist With a Gun.

(Continued from Yesterday.)

The nests of this species, of which three fine specimens were collected, are so similar inter se as to be easily distinguished from nests of the other species on the island. Still they differ considerably, especially in the materials used, from others of the same genus now in the museum collection. The most definitely identified and best constructed nest (Mus. No. 4696) is one taken May 27, about half way down the Pelekunu pali. It was built in a stunted ohia tree beside the trail and was poorly, if at all, concealed. It was placed on a horizontal limb fifteen feet from the ground, which brought it on a level with the path on the crest of the ridge. Its external dimensions are 5 inches across by 2.25 inches in depth. The bowl is 2.25 inches across by 1.25 inches in depth. Externally, the structure is loosely woven from green moss. Into this, as a secondary lining, is worked some brown fibrous material of the color of pulu, but resembling closely the soft inner bark of the ohia. The lining proper is a generous one, composed entirely of the fiber of the dead leaves of the leie. The nest is a well-woven, compact structure. When first taken it was strongly scented by the peculiar drepanine odor, a trace of which still clings to it. Though no eggs were in the nest, the parent bird was on when it was discovered.

A second nest, taken at Halawa, May 24, is a sort of concession to civilization, being placed in the upright fork of a lantana bush that was growing among the ohia trees, a considerable distance into the forest. It is substantially the same as the one just described, though not of as high order of workmanship.

**Oreomystis flammea (Wilson).**

Of this species an excellent select series was collected which shows the various stages through which the birds of both sexes go before attaining their adult plumage. In the field the flame-red males are in a decided minority, occurring in the ratio of about one in nine. But in my series of study specimens, they are in the ratio of one to three. This is owing to the tendency in the field to take the bright colored bird, and not (as might erroneously be concluded) because they are easier to obtain than the females or immature. The fully adult male at this season is usually accompanied by the female and from two to four parti-colored immature birds of both sexes. Occasionally young birds that have assumed more than three-fourths of the red plumage of the adult will be found in such companies. On the other hand one is rather more apt to find pairs mated and settled before the male has assumed one-third of the conspicuous red plumage to which he is heir.

In habits the Kakawahia resembles the species of the genus to which it belongs, and from which it differs in color so widely. They prefer to feed over the trunks and branches of the trees. Here they secure the insects that make up almost the whole of their diet. However, they will be seen in the tops of the tallest trees, but apparently paying little or no attention to their flowers. In short, they are persistent and sturdy entomologists, always active and alert, but strange to say, they seldom, if ever, take insects on the wing. At intervals moths are taken of such size they are compelled to hold them under their feet and pull them to pieces so as to devour them piecemeal, much after the fashion of the common chickadee.

When they have once settled on a home in the forest they at once set about to establish their sphere of influence, over which they rule, so far as possible, to the exclusion of every trespasser. On the approach of some intruder, as a man or a dog, they will both set up a scolding "Chirk, chirk," that is no uncertain sound to one familiar with birds' voices and ways. If the alarm chirk is continued long enough, the nearest neighbors are rarely so far away that they will not come in to satisfy their natural curiosity and add the weight of their presence and voice to the protest.

The Kakawahia, like his cousins, is full of curiosity. The sound of one making one's way through the woods is sure to attract the little resident to the scene, when uttering their never-varied "chirk," they will come close enough to the person to take in every detail of his makeup in wide-eyed inquisitiveness. Once satisfied that their show of authority has no intimidating effect, they will resume their feeding close to the observer. One can thus study their movements at close range. I have often watched them under the most favorable circumstances, for an hour or more at a time, but have never seen them paying the slightest attention to the nectar-bearing flowers about them. Occasionally they go down in the shrubs to within a foot or so of the ground, and it is probable that on rare occasions they do alight on the ground, although I have never seen them do so.

A good series of fairly well identified nests was taken, but the eggs were not secured and remain as yet unknown. The best specimen (Mus. No. 4691) was secured in the middle of the Halawa forest on May 27. I had climbed into an ohia tree to take a survey of the surrounding country, when my attention was attracted by the disturbance being made by a fine red male Kakawahia, accompanied by its mate and three immature birds. They came up close to me and were loud and determined in their "chirks." Looking about for the cause, I found it in the shape of a nest but a few feet from me. It appeared to be just completed. It is made up of moss neatly woven together, and measures 4.00 inches in diameter by 2.75 inches deep. The interior is lined with the blackish root-like stems of dead moss and a few fibers from disintegrated leie leaves. The bowl is just over 2.00 inches across by 1.50 inches deep. A horizontal fork of an ohia limb some fifteen feet from the ground has been used as the site.

I conclude that the young birds following the adults were from a late brood of the year before, and doubtless would themselves not breed until the following fall or spring; though one of the young was well advanced in assuming the plumage of the adult.

The second nest (Mus. No. 4694) was also taken from an ohia tree. It was collected at Mapulehu June 9, and is in every way similar to No. 4691, except that it was placed in an upright crotch.

A third nest, in an unfinished condition, was taken on Kilohana in the wet forest on April 30. The old bird was seen carrying the moss of which the exterior is composed. The site was an upright fork of a small kawau tree about eight feet from the ground.

**Psittirostra psittacea (Gmel.).**

It is my intention in a separate paper to discuss at some length the Museum's choice series of almost a hundred skins of the Ou that have been collected on the large islands of the group. It is felt that certain questions that have been raised concerning this interesting genus can then be cleared up. For the present it is sufficient to say that sixteen skins of both sexes, adult and immature, were secured on Molokai during April, May and June.

The Ou was met with at all the stations visited in the forest area, in a ratio of about one to twenty, as compared with the Amakihi. Hence it is not, relatively speaking, the abundant species its size and song would seem to make it, especially when compared with the much smaller and more obscurely colored Chlorodrepanis.

The Halawa forest makes an ideal home for this leie-loving bird, since that region, as has elsewhere been mentioned, is a perfect tangle of this vine. Along the streams patches of wild banana are also common, while Olona (Touchardia), another food plant of the species, is met with everywhere in suitable places. As leie has apparently had much to do in the evolution of its peculiar beak, the Ou commonly frequents the forests where it is most abundant. It is, nevertheless, always to be found in the more dense ohia forests, even though the amount of leie is small, or wanting entirely. In the heavily wooded localities, it feeds through the tops of the trees, seldom coming near the ground. At such times there are usually several birds in the locality scattered about in scout formation. They seem rarely to alight together in the sme tree, yet they always keep within easy call of each other. The inquiringly whistled call note "Pseweet" is frequently given, and answered by birds thus developed, especially during cloudy weather. If the call is imitated the bird will readily respond a number of times in succession, often cautiously approaching the observer to satisfy its curiosity. The young birds are much easier decoyed in this way than are the more experienced adults. It is not uncommon to have the green inconspicuously colored birds answer one from a tree near at hand, several minutes before its whereabouts can be determined. A number of times during drenching rains, I have heard the call note plaintively given, and after protracted search have found the bird standing motionless in a very dejected attitude, huddled close against a tree trunk, or stowed away in a thick bunch of leaves for shelter.

Of its musical powers much has been written, as it has been quite commonly given first place among the singing Drepanididae. The song—which, by the way, is rarely given in its entirety—is especially sweet and pleasing, resembling in many respects that of the canary. Perhaps the favorite place for delivering its song is from the topmost branch of some dead ohia tree, standing in an opening in the dense surrounding forest. From such a station it will often sing intermittently for an hour or more. It is liable at any time to disappear in the woods, only to return presently to take up its song again.

The adult male is, by reason of its golden yellow head, a conspicuous bird, but with the head has been supplied a large amount of caution which results in it being much rarer in collections than would otherwise be the case. The female and the immature of both sexes are inconspicuously colored, and for that reason are often passed by the collector unobserved. As is so often the case, owing to the curiosity and want of fear in the young, more immature than adult birds are always collected.

The flight of the Ou is rapid, heavy and direct. During their more extended flights, as from one ridge to another, they are more often than otherwise in small flocks. Birds of both sexes answer a decoy whistle frequently, coming within easy range of one, eying the intruder narrowly all the while. A sudden motion, or an unusual noise will invariably put the bird to flight, when they will dart off without further ado, not infrequently flying half a mile or more in a direct line. Like the Apapane, I have observed the Ou making long-sustained flights from the palis of the large valleys, that carried them readily from one valley to another. At such times they rarely, if ever, soar or circle about, but set off directly for the fresher fields with a show of knowledge and determination that makes them while on the wing, easily distinguished from their neighbors, as far as they can be seen.

The series of skins give the following maximum, minimum and average measurements:

Four Adult Males—Minimum: Length 7.00; wing 3.50; tail 2.20; tarsus 87; toe 90; culmen 60. Average: Length 7.06; wing 3.70; tail 2.24; tarsus 90; toe 97; culmen 60. Maximum: Length 7.25; wing 3.80; tail 2.40; tarsus 92; toe 1.05; culmen 60.

Five Females—Minimum: Length 6.75; wing 3.50 tail 2.10; tarsus 87; toe 95; culmen 60. Average: Length 7.00; wing 3.61; tail 2.22; tarsus 90; toe 95; culmen 60. Maximum: Length 7.25; wing 3.70; tail 2.40; tarsus 92; toe 95; culmen 60.

Four Immature—Minimum: Length 6.70; wing 3.50; tail 2.15. Average: Length 6.92; wing 3.59; tail 2.20; toe 95; culmen 60. Maximum: Length 7.10; wing 3.65; tail 2.40.

It is remarkable that the nesting habits of this bird, which has in times past been common on all the islands of the group and has been so generally collected and studied, should as yet remain entirely unknown.

**Moho bishopi (Roths.).**

After two months in the forest of the island, I have no hesitancy in pronouncing the Bishop Oo a very rare bird. During that time not a specimen was secured, nor was I able to hear so much as a sound that could be even attributed to it. This is the more remarkable since we know that its characteristic call can be heard in the forests, especially in the more favorable districts—as at the heads of the great valleys mentioned—for a half mile or more.

My disappointment at not securing this species was most keen. However, as the Museum received but three imperfect specimens as its third share of the collection made by Mr. Perkins, I feel sure the species was at that time (September and August, 1893) by no means common. Since the above date it has certainly very appreciably decreased in numbers, as Mr. Munro and I are ready to testify. The requirements of the Museum's exhibition and study series, no less than my desire to see and study the bird alive, nerved me to put forth every effort to discover its whereabouts. No pains were spared in making a thorough examination of every locality suited to its habits, as well as every place where it had been merely reported as having been seen in recent times. As a result, the wildest and most difficult parts of the island forests were visited, not once, but repeatedly. On several occasions a night or more was spent, sleeping in the open, in the center of promising localities not to be reached otherwise, in the hope of hearing, if possible, the call of the Oo either in the late afternoon or early morning. Feeding grounds where the bird was reported to have been seen "in small flocks" a few months before, were revisited, usually accompanied by the persons reporting the observation, with the uniformly discouraging result. Virgin forest, unfrequented by man or beast, was traversed to no avail. Many hours were spent in silently watching and listening in places where, according to the oldest natives and even those of the present generation, birds were formerly to be met with, almost always on even the most casual day's ramble in the woods. Its feeding grounds among the ohia, the bananas and the lobelias were regularly visited. The deep gloomy woods, the bright forested ridges, the secluded valleys were explored from end to end of its habitat, all without seeing so much as a single sign of the bird to encourage one to further effort.

Nevertheless, since the present species, as well as its cousins of Kauai and Hawaii are known to be gregarious and nomadic at certain seasons, it may be that such habits account for its occasional appearance, and more frequent complete disappearance in certain sections. However that may be, of the fact that the Oo is a rare—indeed an exceedingly rare bird, there seems little question. As to its being already extinct, I am not yet convinced, but that it is very near the verge of extermination, cannot longer be doubted by any one.

**Phaeornis rutha, New Species.**

Type specimens. Male: B. P. Bishop Museum No. 4631; Kilohana Mountain, Molokai; April 30, 1907; W. A. Bryan. Female: B. P. Bishop Museum No. 4632; Puualu Mountain, Molokai; April 22, 1907; W. A. Bryan. Immature Male: B. P. Bishop Museum No. 4628; Halawa, Molokai; May 25, 1907; W. A. Bryan.

Habitat. Forest area of the island of Molokai only.

Specific Characters. Similar to lanaiensis but with the throat and breast much grayer; abdomen and under tail coverts whiter; back darker olive-brown; size uniformly a trifle larger; bill averaging longer and slightly broader.

Diagnostic Characters. Uniform in color; above brown or hair-brown with an olive wash; with no conspicuous markings on the outer tail feathers; size larger, length (in the flesh) 8.25-8.40, wing 3.67-3.80, tail 3.10-3.25; darker above in adult and immature, and without any rusty gray cast on the crown and mantle. Grayer on the throat and breast.

Description of Type. Adult Male: Above inconspicuous dull brown with dusky olive tinge; head darker colored than the mantle. The grayish wash of lanaiensis over the head and rump wanting even in moulting birds. Outer webs of the inner primaries and most of the secondaries with a blackish patch at their bases, which is bordered before with a rusty brown patch; center tail feathers like the back; outer pair paler on their outer webs on the basal portion, but not conspicuously so. Lores blackish and gray, grayest on the breast and palest on the throat; sides of the body like the breast. Flanks and thighs rusty olive. Center of the abdomen clear white; under tail coverts ranging from pale buffy cream to white; bill black, iris brown; feet and tarsus dark brown; soles pale yellow in life. Length 8.25 (8.31)-8.40, wing 3.67 (3.73)-3.80, tail 3.10 (3.17)-3.25, tarsus 1.22, toe 1.00, culmen .72.

Adult Female: Similar to the male in color. Length 8.40, wing 3.70 (3.72)-3.75, tail 3.05 (3.09)-3.12, culmen .70.

Immature Male: Similar to young lanaiensis, but much darker and less rusty olive over the back; under parts uniformly grayer; wings and tail longer. Length 8.00, wing 3.65 (3.69)-3.75, tail 3.05 (3.11)-3.15, culmen .71.

When studying the material preparatory to writing my Key to the Hawaiian Birds, in 1899, I was convinced that the Molokai form would prove distinct from the Lanai form. Since then as the Museum's series of specimens from the two islands has increased, evidence has accumulated all tending to substantiate the premise there expressed (Memoir B. P. Bishop Museum, vol. i, p. 311) until now, with the additional series of 20 carefully sexed birds in the collection just made, there is no reason for hesitating longer in separating these two closely allied forms. This I have done, naming the Molokai Olomao in memory of my wife.

That the species from the two islands are very similar is not surprising, since the islands are only a few miles apart. Yet the conclusion which has been generally accepted, namely, that the birds from both islands cross the channel with sufficient frequency and regularity to keep the individuals of both habitats uniform, receives a serious rebuttal when we consider that neither Lanai nor Molokai has, to our knowledge, sent out settlers to the nearby and larger islands of Maui and Oahu, in sufficient numbers, if at all, to in the least way prevent the genus from disappearing entirely from the last mentioned islands, while they have continued to remain common on both Lanai and Molokai. A sufficient cause for their not throwing out stragglers or regular settlers is perfectly apparent when a close study of the genus is made in the field.

As is well known, all the species of Phaeornis are highly sylvan, rarely leaving the deeper woods. Or, if occasionally inhabiting the more open parts of the woods, they are always of settled habits, frequenting the same sections throughout the year. They never seem to range very far from any particular locality where they have taken up a residence. If they do go afield, it is always by short covered flights. For the Olomao is by nature a shy, timid bird, and for that reason, instead of exposing itself in the open it prefers to proceed from place to place by short, low flights, usually through the shade of the forest. Again, a flock of Olomao, even a flock in the most restricted sense, has, I believe, never been seen. When they rove about at all they are alone, or at most in pairs. In my experience with the genus on Kauai, Molokai and Hawaii, I have never seen them high up in the air, and sustain a flight of any distance above the treetops. Their buoyant spirit not infrequently lifts them into the air in a prolonged burst of song, but when they have finished the effort they drop back into cover and if so minded work off through the trees to some other favorite retreat. In marked contrast with the habits of the wide-ranging Apapane or Iiwi, I have never witnessed a bold flight of even a solitary individual from the high forest-clad palis where it abounds.

It would be perfectly possible physically for the Olomao to readily pass back and forth from Molokai to Lanai, or to Maui, or Oahu, so far as the inter-island distances and its power of flight are concerned. But I am convinced that its habits are such that it does not venture voluntarily on such flights. Furthermore, by rarely exposing itself in the open or getting far from cover, it reduces the possibility of such migrations being accidentally made through the agencies of wind and weather to the minimum. Hence it is highly probable that the inter-island migration and breeding of sufficient numbers of the two forms to influence the mass of individuals on both islands sufficiently to keep them breeding to type does not occur.

The general habits of the Molokai species coincide very closely with those of the other species of the genus. Berries are by far its commonest food. While insects were found in the stomachs of a part of the birds examined, they occurred in no considerable quantity in any of them. Several times I came on the birds feeding on berries and had an opportunity to watch their behavior at close range unobserved. It was thus possible for me to settle some minor points as to their behavior, particularly as to the cause of the peculiar trembling motion of the wings which has been attributed by one or two authors to fear alone.

A bird under close observation flew down to feed on the drupes of a small Olapa (Cheirodendron). After a few moments it flew up into a nearby tree, when, after deliberately cleaning its bill it broke forth into its fullest song. Pausing as if to study the effect, or to see if the melody would be taken up by its neighbors, it would tremble the wings and hop idly about from branch to branch. This program was repeated many times, singing, feeding, and fluttering its wings alternatively. It is true that the quivering is more often resorted to under the stress of excitement, but it is equally certain that it is indulged in at other times quite naturally and frequently.

As to the song of the Olomao little can be added to the excellent accounts already in print. No one is able to see the singer of hear its song without being impressed by its thrush-like character. The effort is more usually delivered from the topmost branches of some favorite tree; although it is to be found frequently singing joyously in the underbrush. When singing the head is always thrown well back, the throat full and free, and the wings and tail are invariably relaxed and drooping. The irregular, at times somewhat jerky, though always melodious song is given not once or twice, but often dozens of times. Once heard its character will live in the memory for years, though its component parts are wholly inimitable.

Not only does the Olomao sing early and late, but in fine weather I have heard it far into the night. One of the peculiarities of the song is its ventriloquistic character. A bird may be singing volubly in a tree not twenty yards away, and so varied in volume and timbre are the notes as the song increases from its beginning of a few low chirping notes to the zenith of its power and beauty, that even an experienced observer is at times at a loss to locate the songster. In truth it seems that the whole tree might be full of song. The voice comes from the center, from the right, from the left, from the back and from the top of the tree successively or simultaneously, seemingly at the pleasure of the musician. So marked is this power that a bird in plain sight may sing a half dozen times before the sombre-colored piper will be discovered. In addition to the song the Olomao has a number of notes and calls. One which is very puzzling, especially to the natives, is a cat-like cry which is given in an inquiring intonation from some hiding place in the undergrowth.

The species was more abundant at Halawa than at any of the other localities visited. This was doubtless due to the seclusion afforded by the untrodden forests of that section. A few immature birds were taken, but the majority of those seen were in the fully adult plumage. The length of time required for the young to acquire the adult plumage is apparently more than one year.

On May 1 I took from thirty feet up in an ohia tree growing in the dense woods on the summit of Puualu, a nest which I have no hesitancy in referring to this species. In the locality was a pair of resident Olomao, evidently the owners of the nest (Mus. No. 4710) here described. Externally it is over 6.00 inches in diameter by 3.50 inches deep. Small dead ohia twigs form the foundation of the structure. Into this is placed a generous lining of moss and fine rootlets neatly woven together to form a substantial thrush-like nest. The hollow of the nest is 3.50 inches across by 1.50 inches in depth. The nest has evidently been used and deserted, though unmistakably of recent construction. It is singular that as yet nothing is known of the egg of any of the species of the genus, save the reference by Henshaw (Birds of the Hawaiian Islands, p. 31) to the finding of a small fragment of an egg shell in the stomach of a Hawaiian hawk (Buteo solitarius) which he suggests might be a portion of an egg of Phaeornis obscura of Hawaii.

It seems worth while recording that an old native who accompanied me on my Moanui trip said that he had heard from his father "that a long time ago there was on Molokai a small brown bird that ran on the ground but could not fly," but that they had all been dead for a long time. He gave its name as Moho (Pennula). He also said that his father had told him of the Elepaio (Chasiempis) being on Molokai in the olden time. Mr. Theodore Meyer substantiated this report by saying that wher he was a boy it was generally known to the old natives that both the Moho and Elepaio had been plentiful, but that they had long ago died out.



## Oahu Railway

**TIME TABLE**

**OUTWARD.**

For Waianae, Waialua, Kahuku and Way Stations—*9:15 a. m., *3:20 p. m.

For Pearl City, Ewa Mill and Way Stations—†7:30 a. m., *9:15 a. m., *11:15 a. m., *2:15 p. m., *3:20 p. m., *5:15 p. m., ‡9:30 p. m., †11 p. m.

For Wahiawa—*9:15 a. m., and *5:15 p. m.

**INWARD.**

Arrive Honolulu from Kahuku, Waialua and Waianae—*8:36 a. m., 5:30 p. m.

Arrive Honolulu from Ewa Mill and Pearl City—†7:46 a. m., *8:36 a. m., *10:38 a. m., *1:40 p. m., *4:31 p. m., 5:31 p. m., *7:30 p. m.

Arrive Honolulu from Wahiawa—*3:36 a. m. and *5:31 p. m.

The Haleiwa Limited, a two-hour train (only first-class tickets honored), leaves Honolulu every Sunday at 8:30 a. m.; returning, arrives in Honolulu at 10:10 p. m. The Limited stops only at Pearl City and Waianae.

*Daily. †Ex. Sunday. ‡Sunday Only.

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## Koolau Railway

**TIME SCHEDULE**

**DAILY, EXCEPT SATURDAY, SUNDAY AND HOLIDAYS**

Leave Kahana for Punaluu, Hauula, Laie, Kahuku and Way Stations at.....12:00 M.
Arrive Kahuku at..... 1:00 P.M.
Returning:
Leave Kahuku for Laie, Hauula, Punaluu, Kahana and Way Stations at..... 1:45 P.M.
Arrive Kahana at..... 2:45 P.M.

**SATURDAY, SUNDAY AND HOLIDAYS**

Leave Kahana for Punaluu, Hauula, Laie, Kahuku and Way Stations at.....11:00 A.M. 1:30 P.M
Arrive Kahuku at.....11:58 A.M. 2:15 P.M.
Leave Kahuku for Laie, Hauula, Punaluu, Kahana and Way Stations at .....12:35 P.M. 3:00 P.M.

Connections are made at Kahuku with the O. R. & L. Co.'s 9:15 a. m. train from Honolulu, and the 2:20 p. m. train, which arrives in the city at 5:30 p. m.

JANUARY 1, 1909.

J. J. Dowling, Superintendent.
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